

## MESOTAENIACEAE

*CYLINDROCYSTIS BREBISSEI* Menegh. Boulder County: near summit of Longs Peak, 14,000 feet; alpine; with *Schizogonium* over moss on wet, siliceous rock, July 22, 1932, 111; east face of Longs Peak, 12,500 feet; alpine; over lichen squamules on wet, siliceous rock-ledges, August 9, 1936, 386b.

## DESMIDIACEAE

*HYALOTHECA DISSILIENS* (Smith) Breb. Boulder County: Sandbeach Lake, 10,350 feet; subalpine; shallow water of outlet, September 12, 1937, 5595.

Desmids were generally not absent in the collections, particularly those made from the alpine zone, but were never abundant enough for separate determinations.

## CHARACEAE

*CHARA CONTRARIA* A. Br. Larimer County: Marys Lake, 8000 feet; montane; on bottom in shallow water, August 3, 1930, 2278. Determined by R. D. Wood.

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## REVIEW

*Las Pináceas Mexicanas.* By MAXIMINO MARTÍNEZ. Instituto de Biología, Mexico, D. F., 1945. 345 pp. + 6 pp. index, 300 figs. (180 line drawings, 120 half tones), paper cover. Published also as: Tom. 16, Anales del Instituto de Biología de la Universidad Nacional de Mexico. 1945.

This book is the result of years of meticulous work by Professor Martínez and is comprehensive in its taxonomic treatment of the genus *Pinus* in Mexico. It contains an extensive discussion of the genus, based on the pines of the New World, under such headings as seed, germination, trunk, bark, buds, branchlets, needles, leaf-sheaths, cones, and several other categories dealing with subheadings under some of the above.

Discussions of damaging insects, fungi, and other pests, of methods used to protect pine lumber, of turpentine methods, and of production and export of resins and other naval stores take up the remainder of the first fifty-two pages. Immediately following is a series of lists, each one giving the species, varieties and forms known to grow in one of the twenty-six states and territories covered. Jalisco and Mexico share honors with seventeen named entities credited to each.

On page fifty-six Professor Martínez begins his discussion of the classification of the pines of Mexico with a brief account of the history of the subject. The taxonomy of *Pinus* in Mexico

began in 1832 when Zuccarini described *Pinus cembroides*. Additional species were soon described by authors in Europe and the United States. Gordon, for the first time, brought all available information together in his "Pinetum" in 1858. The next notable works covering the region were those of Shaw, "The Pines of Mexico" in 1909, and his monograph, "The Genus Pinus," published in 1914. Professor Martínez then decries Shaw's ultra conservatism by saying that Shaw followed an exaggerated tendency toward reducing species when he recognized only eighteen species and seventeen varieties of pines in Mexico. The author of this paper, after years of careful study, during which he examined more than 6,000 specimens and travelled extensively in the field, recognizes thirty-nine species, sixteen varieties, and ten formas. These he groups into nine sections. The ninth of the sections, the "Coulteri," contains only the single species, *P. Coulteri* Don. The largest section is the sixth, the "Montezumae," which consists of seven species, four varieties, and four formas. The other sections range between these two extremes in the number of entities included in each. Professor Martínez seems to have toyed with the idea of reducing *P. monophylla* and *P. quadrifolia* to varietal rank under *P. cembroides*, but retained them in specific rank. *P. edulis*, however, is reduced to a variety of *P. cembroides*. The reviewer once wrote to Professor Martínez that, ". . . perhaps *edulis* can be regarded best as a good variety or subspecies of *cembroides*, and that possibly all of that piñon pine group, *cembroides*, *edulis*, *monophylla*, and *quadrifolia* are just geographical expressions of one specific complex." This comment undoubtedly was the basis for the statement that "It is the opinion of the last author [Wiggins] that all of the piñons cited are geographical expressions of one specific complex" (p. 80). Obviously the qualifying "perhaps" was overlooked or misinterpreted, for the next sentence in my letter said that I had not studied *cembroides* nor *edulis* in the field, implying thereby that I placed no great weight upon that casual comment. In general, however, the quotations from communications and papers of other workers are well chosen and bolster the conclusions of the author.

A key to the species, which is mainly dichotomous but at places presents three or four parallel choices, is included. In this key use is made of cone shape and size, character of the umbo and apophysis, persistence or caducousness of scales, number, diameter and length of the needles, and a number of lesser characters in differentiating the species. In general the key appears quite workable, but it is doubtful if *P. radiata* and *P. attenuata* could be separated consistently by "Cone oblique, reflexed" (*P. attenuata*) and "Cone almost symmetrical, ovoid, spreading" (*P. radiata*). The key is so constructed that those species possessing the same number of needles in a fascicle fall into the same groups, even though the number of needles is not used as a key-character to the groups.

The description of each species is very complete and is written in a narrative style instead of in the manner followed by botanists in the United States and Europe, who generally omit verbs. The species are not numbered in the key nor in the text. Synonymy is not given for most of the combinations accepted. The reference to the original publication of a species is given in bold face type immediately following or just below the binomial and the author's name, these appearing in capitals but not in bold face. Distribution maps accompany some species while for others a general statement of range suffices, and in still other instances individual listing of localities may supplement or take the place of the general statement of range. Names of the collectors are rarely given, and one is not sure whether the other localities represent those spots where Professor Martínez personally observed the entity or only localities at which others collected or reported the particular pine. In some few cases the statement of range is based upon published comments of earlier writers and is sometimes open to question, e.g., the presence of *P. flexilis* in Baja California (p. 102).

A tabulation of novelties and new combinations reveals one new species, *Pinus lutea*, published by Sr. Ing. Cenobio E. Blanco (p. 233), seven new varieties, seven new formas, two new combinations and two new names. One of the new names is designated "new combination," but the varietal name applied is proposed to take the place of an earlier (and in the author's opinion, untenable) name. The new name, "var. *oaxacana*" under *P. pseudostrobus*, had not previously been used for the entity under consideration (p. 195). The ambiguity too often evident in the "International Rules of Botanical Nomenclature" may well account for the relegation of *P. pseudostrobus* var. *apulcensis* Shaw to synonymy under *P. pseudostrobus* var. *oaxacana* Martínez and the proposal of *P. pseudostrobus* var. *apulcensis* Martínez, not Shaw, for the material from Hidalgo. As I interpret the rules this course is not permissible and Shaw's combination must stand for the entity "*P. pseudostrobus* var. *apulcensis* (Lindley) Shaw," even though Shaw misidentified the material from Oaxaca as Lindley's *P. apulcensis*. (The last named pine came from Hidalgo.) Thus *P. pseudostrobus* var. *oaxacana* may miss being considered a new variety instead of a new combination only because it is not accompanied by a Latin diagnosis. Latin descriptions are provided for all the new varieties and for *P. lutea* Blanco, but are omitted following the denomination of the new formas.

In spite of the criticisms mentioned above, I consider the book a credit to its author and deserving of a place in the libraries and on the desks of all botanists who are interested in the pines of the Western Hemisphere. The detailed descriptions will prove of tremendous value to anyone needing to identify a pine from Mexico. The halftones of cones, bark, needles and general habit,

mostly made from photographs taken by the author, help one greatly in visualizing the character of the trees about which Professor Martínez writes lucidly. Of high value, also, are the line drawings and distribution maps. Even though the number of resin canals in a given needle may vary between base and apex, the cross sections of needles are valuable in showing the general pattern of the tissues and cells in the needle of each species so illustrated. Personally, I am glad that he included them and congratulate Professor Martínez upon having secured the services of Sr. Manuel Ornelas C. to make the drawings of these sections and of needles, cones, and seeds.

The typography is good and the use of glazed paper did much to enhance the clearness and quality of reproduction of the figures. Typographical errors are commendably few. In my estimation, this book deserves praise and lots of use. May more such works come from the workers in botany in Mexico!—IRA L. WIGGINS, Stanford University, California.

#### NOTES AND NEWS

**TYPE LOCALITIES AND MAN-MADE LAKES.** It is reported that plans have been approved for the construction of several additional dams in California. Of these, the one of greatest concern to botanists is the proposed dam at Isabella in the southern Sierra Nevada. It is said that the high water level of the lake will follow the 2605-foot contour. This will form a lake flooding the Kern River Valley east to Weldon and north along the course of the main fork of the Kern River to the vicinity of Kernville. The Weldon arm of the lake will be approximately ten miles long and the Kernville arm, six miles long. Walker Pass and the Kern River Valley lie along one of the main migration routes into California and many plants were first collected and described from this area. In July of 1891, Coville and Funston, of the Death Valley Expedition, collected here. Later, the Brandegees and Alice Eastwood collected and subsequently described as new many of the plants they found in this region. Other botanists—principally Greene, Purpus, Heller, Marcus Jones—published a number of new species based upon Kern River Valley material. Much of this collecting was done during the spring and early summer months.

With the flooding of this vast area, all of these type localities will be lost to science, and some of the species may be lost with them. Intensive collecting in this area is urged before construction begins. In addition to yielding valuable topotype material, a thorough study of this area will give us a better basis for evaluating the vegetational changes that will take place after the establishment of the permanent lake.—ANNETTA CARTER, Department of Botany, University of California, Berkeley.